

**SYSTEMS, METHODS AND COMPUTER PROGRAM PRODUCTS FOR
ENCRYPTION AND DECRYPTION USING WAVELET TRANSFORMS**

ABSTRACT OF THE DISCLOSURE

Systems and methods provide encryption and decryption using wavelet transforms over finite fields. The wavelet encryption system and wavelet decryption system include one or more filters that receive a set of wavelet coefficients as input. The wavelet coefficients are then utilized by the wavelet encryption system to cause the filters to encrypt plaintext into ciphertext. The ciphertext is then decrypted by a wavelet decryption system, which is operable to reconstruct the original plaintext using wavelet transforms that reverse the effect of the wavelet encryption system.